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ging bees in the section bee-hive. embracing also improved methods of artificial swarming, whereby the business of bee keeping is rendered more profitable and pleasant." The rearing of bees is becoming a source of profit to farmers, and though without a practical acquaintance with the subject, we should judge it to be for the interest of every bee keeper to own this little manual, and to learn the merits of the section bee-hive described and figured in it.

THE EXTINCT FLORA OF NORTH AMERICA.* — This pamphlet is the climax of the late controversy between Messrs. Meek and Hayden on the one side, and Profs. Marcou and Heer on the other. This controversy made us acquainted with the fact that the familiar forms of the poplar, oak, sassafras, willow, etc., lived in the Cretaceous period; and in the present pamphlet the author, who was also one of the first to assert this truth, reviews the main points of the evidence, and brings forward a numerous list of new species. The Cretaceous period, though the continent had a different outline from the present, and though it was inhabited by animals very distinct from ours, had forests resembling in many of their characteristic trees those of to-day. "Salisburia, Sabal, and Cinnamomum, etc., are indicative of a warmer climate," and are found on the West coast of the continent. "Possibly these genera may hereafter be detected in the plant-beds of Kansas, Nebraska, and New Mexico, but as yet we have no intimation of their existence, and there is nothing now known in the Cretaceous flora of that region which gives it a tropical or even sub-tropical character."

"It will be remembered that this vegetation grew upon a broad continental surface, of which the central portion was considerably elevated. This would give us physical conditions not unlike those of the continent at the present day; and it would seem to be inevitable that the isothermal lines should be curved over the surface somewhat as at present. It may very well happen, therefore, that we shall find the palms and cinnamons restricted to the western margin of the Cretaceous continent. It will be seen by the notes now given of the Tertiary flora of our continent, that, at a later date, palms grew in the same region where these Cretaceous plants are found; but cinnamons and other tropical plants seem to be entirely wanting in the Tertiary flora of the central part of the continent, while on the west coast both palms and cinnamons lived during the Tertiary period as far north as the British line. We have therefore negative evidence from the facts, though it may be reversed at an early day by farther observations, that the climate of the interior of our continent during the Tertiary age was somewhat warmer than at the beginning of the Cretaceous period, and that during both the same relative differences of climate prevailed between the central and western portions that exist at the present day."

PARASITIC WORMS IN THE BRAIN OF A BIRD.†— One of the most obscure subjects in zoölogy is the history and development of animal parasites, and especially those which take up their abode in the brain of different animals. Prof. Wyman has detected a species of "round worm" in the brain of seventeen out of nineteen specimens of the *Anhinga* (Snake-bird or Water-turkey) shot in Florida, thus proving that "their presence in the cranial cavity might be called the normal condition of this bird." The author states, that

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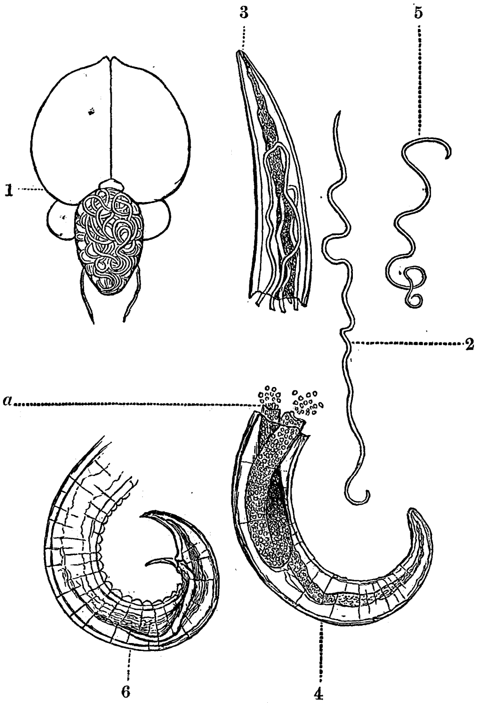
* Notes on the Later Extinct Floras of North America, with descriptions of some New Species of Fossil Plants from the Cretaceous and Tertiary Strata. By Prof. J. S. Newberry, of Columbia College, New York. 8vo, pp. 76.

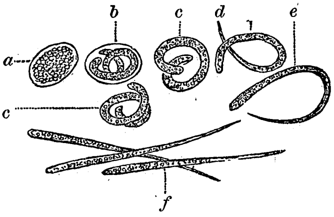
† On a Thread-worm infesting the Brain of the Snake-bird." By Jeffries Wyman, M. D. (From the Proceedings of the Boston Society of Natural History, October 7, 1868). 8vo, pp. 7.

> "Parasites have occasionally been found infesting the brain or its membranes in man and animals, but far less frequently than in the other regions of the body. The number of species thus far observed is quite small, and are chiefly referable to the genera *Tænia*, *Filaria*, *Trichina*, and *Diplostomum*, and confined almost wholly to man and domesticated animals, such as the sheep, reindeer, dromedary, horse and ox; and among wild animals to the chamois, roe-buck, and a few others. That they have not been more frequently seen in the wild species is without doubt due to the fact that the brains of these have been so seldom examined for the purpose of detecting them."



These worms, "which correspond very nearly, if not identical with the *Eustrongylus papillosus* Diesing," were found in every instance coiled up on the back of the cerebrellum (Fig. 1), their number varying from two to eight. Fig. 2 is the female, and Fig. 3 represents the head, much enlarged, and Fig. 4 the end of the body, showing the oviduct and eggs (*a*). The male, Fig. 5, is only one-half as thick as the female, and the end of its body, Fig. 6, is always more closely coiled than in the female. This worm is viviparous, the young hatching in the oviduct. The development of the young is sketched in Fig. 7; *a*, is the egg; in *b*, containing the embryo, which leaves the egg in the form indicated at *c*, *c*′. As they descend lower down in the oviduct, they straighten themselves, as at *d* and *e*, until they become of the form indicated at *f*. "Their earlier stages are unknown, but the analogy of the Gordiaceous, and other worms, lead to the supposition that the parasite of the brain of *Anhinga* is one of the migratory kinds, and that a part of its life, at least, is passed in a locality quite different from that in which it was detected. The manner in which the transfer of the embryo is effected

Fig. 7.



outwardly to some other animal, or the water, and then back to another *Anhinga*, is wholly unknown."

SCIENTIFIC OPINION.* — A weekly journal showing the progress of science in all its departments, is a most welcome publication. It is edited with great ability, and its editorial reviews deserve especial notice for their plain speaking and candor. No other journal known to us reports so promptly and fully the Proceedings of Scientific Societies, especially the German and French. Both this and the Paris *Cosmos*, a favorite exchange with us, will doubtless have a wide circulation in America, as science is attaining such proportions that we on this side of the water must receive weekly scientific intelligence from Europe.

FAUNA OF THE GULF-STREAM AT GREAT DEPTHS.† — This is the continuation of a similar paper by the same author previously reviewed. The utmost depth reached with the dredge was 517 fathoms, or 3102 feet, or over 1000 feet beyond the late researches near Spitzbergen. The bottom has been divided into three regions, extending in zones around the Florida reefs:—1st, From the reef outwards four or five miles to the depth of 90 fathoms; 2d, From 90 to 250 or 350 fathoms; 3d, The bottom of the channel which does not much exceed 500 fathoms. The first region is barren, and covered only by dead and broken shells, showing that the fauna of the reef itself does not extend seaward. The second is "rich in animal forms," and is particularly interesting to the geologist. It is a limestone, gradually increasing by the accumulation of the calcareous remains of Corals, Echinoderms and Mollusks. "These debris are consolidated by the tubes of Serpulæ, the interstices filled up by Foraminiferæ, and smoothed over by the Nullipores. It is supposed by the author that this will eventually thicken until the water is shallow enough for the Astreans and Madrepores to begin their work of founding a new barrier similar to the existing reefs. This limestone is filled with recent fossils, furnished in great part by the animals now living on the bottom, but "a few contribute by sinking after death from the higher regions of the superincumbent water (teeth of fishes and shells of Pteropods), and others are brought by currents from littoral regions (bones of the Manatee, and fragments of littoral plants). All the branches of the animal kingdom, so far as their marine carnivorous orders are concerned, are abundantly represented in this region, but it is destitute of plants.

The third region is sparsely inhabited by a few Mollusks, Radiates, and Crustaceans, but the peculiar animal is the microscopical Globigerinæ whose siliceous shells have covered the bottom of the channel with a thick deposit. The deep sea animals of the second and third regions are of smaller size than allied forms of the littoral zone. "The only exception is an Echinus, which is nearly of the average size, and an Actinia.

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* Scientific Opinion. A Weekly Record of Scientific Progress at Home and Abroad. Part I. December; II. January, 1869. 4to. Monthly Parts, 1s. 6d. London, 1869. 4to, 3 columns.

† Bulletin of the Museum of Comparative Zoology, No. 7. Contributions to the Fauna of the Gulf-stream at great depths. (Second series.) By L. F. Pourtales, Ass't U. S. Coast Survey.